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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,411	01/06/2004	Aubrey Kuang-Yu Chen	0941-0893P	3179
2292 7590 05/03/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER RASHID, DAVID	
			ART UNIT 2609	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/751,411

Applicant(s)

CHEN, AUBREY KUANG-YU

Examiner

David P. Rashid

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/6/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application
- ☐ Other: ____.

DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

Claim Objections

1. **Claims 1 through 10** are objected to because of the following informalities:
 - (i) Claim 1, line 1 and claim 6, line 1 both contain the same grammatical error – suggest changing to "...vector representation of an image,..."Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 5, 6, and 10** are rejected under 35 U.S.C. 102(b) as being anticipated by Saga et al. (US 5,425,109 A).

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Regarding **claim 1**, Saga discloses a method (FIG. 2) for creating a vector representation (Col. 12, lines 8 - 12) of an image (FIG. 1, element 5), the method comprising the steps of:

acquiring position information for two nodes (FIG. 4B, solid endpoints of element CA, 31a) of the image from user input (FIG. 4B, element 2);

determining a curve sketching a segment of an outline of the image (FIG. 4B, element CA, 31a) between the two nodes (FIG. 2, elements 16, 17, and 18);

acquiring position information of a new node on the image (FIG. 5A, leftmost solid endpoint of element L, 31b) from additional user input (FIG. 5A, element 2);

determining another curve sketching another segment of the outline of the image (FIG. 5B, element L, 31b) between the new node (FIG. 5B, leftmost solid endpoint of element L, 31b) and the node where the previous curve ends (FIG. 5B, rightmost sold endpoint of element CA, 31a); and

repeating the determination step (FIG. 5C, element FO, 31b; Col. 9, lines 55 - 59) until the outline of the image is completely sketched (FIG. 5C, element CA, 31a and element FO, 31b is the complete outline of the image 5).

Regarding **claim 5**, Saga discloses the method of claimed in claim 1 further comprising smoothing joints of the curves sketching the outline of the image (Col. 11, lines 16 - 21).

Regarding **claim 6**, claim 1 recites identical features as in the means-plus-function claim 6. Thus, references/arguments equivalent to those presented above for claim 1 is equally applicable to claim 6. All means-plus-function elements of claim 6 are anticipated by the computer (FIG. 3, elements 1, 3) as disclosed by Saga.

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Regarding **claim 10**, claim 5 recites identical features as in the means-plus-function claim 10. Thus, references/arguments equivalent to those presented above for claim 5 is equally applicable to claim 10. All means-plus-function elements of claim 10 are anticipated by the computer (FIG. 3, elements 1, 3) as disclosed by Saga.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Saga et al. (US 5,425,109 A) and Eller et al. (US 5,287,417 A),

Regarding **claim 2**, while Saga discloses the method as claimed in claim 1, Saga does not teach the image being a bitmap image.

Eller discloses a method for recognizing a graphic object's shape, line style, and fill pattern in a pen environment (FIG. 1) where the image is a bitmap image (FIG. 1, element 122; Col. 3, lines 11 – 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the display/input surface of Saga to use a bitmap image as the image as taught by Eller because bitmap images are able to accurately represent a wide range of colors and shades in complex images.

Regarding **claim 7**, claim 2 recites identical features as in the means-plus-function claim 7. Thus, references/arguments equivalent to those presented above for claim 2 is equally

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applicable to claim 7. All means-plus-function elements of claim 7 are anticipated by the computer (FIG. 3, elements 1, 3) as disclosed by Saga.

6. **Claims 3, 4, 8 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Saga et al. (US 5,425,109 A) in view of Gebhard et al. (An Active Contour Model for Segmentation Based on Cubic B-splines and Gradient Vector Flow, Lecture Notes in Computer Science, Springer Berlin / Heidelberg, Volume 2208/2001, 2001, pg 1373 – 1375) and Paramore (Simple Curve Fitting, 2002, pg 1 - 4).

Regarding **claims 3 and 4**, while Saga discloses the method as claimed in claim 1, further including adopting a function to one describing a cubic Bezier curve (Col. 1, lines 47 - 51) for curve sketching one segment of the outline (refer to references/arguments cited in claim 1) of the image between two of the nodes acquired from user input (refer to references/arguments cited in claim 1), Saga does not disclose wherein the curve sketching one segment of the outline of the image between two of the nodes acquired from user input is further determined by the steps of:

determining a vector flow of the image between the two nodes by a tracing algorithm to extract a number of sample points; and

determining a function describing the sample points by a curve-fitting algorithm.

Gebhard discloses an active contour model for segmentation based on cubic b-splines and gradient vector flow (abstract, pg 1373) wherein curve sketching one segment of the outline of the image (Fig. 1, pg 1374) between two of the nodes acquired from user input (Section 3, first sentence, pg 1374) is determined by the step of:

determining a vector flow of the image (“GVF” (gradient vector flow) in Section 3, first sentence, pg 1374) between the two nodes by a tracing algorithm (equations (1) through (3)) to

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extract a number of sample points (“evolution of the control points under time” in Section 3, second sentence, pg 1374).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of Saga to include curve sketching one segment of the outline of the image between two of the nodes acquired from user input by determining a vector flow of the image between the two nodes by a tracing algorithm to extract a number of sample points as taught by Gebhard to “...enable the snake to evolve into concavities of the shape.”, Gebhard, abstract, pg 1373.

While Saga in view of Gebhard disclose the method above, Saga in view of Gebhard does not include determining a function describing the sample points by a curve-fitting algorithm for curve sketching.

Paramore discloses a simple curve fitting algorithm (abstract, page 1) that includes determining a function describing the sample points by a curve-fitting algorithm for curve sketching (section 1, pg 1 – 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of Saga in view of Gebhard to include the simple curve fitting algorithm of Paramore to determine a function describing the sample points by a curve-fitting algorithm “...that can be applied to any general multidimensional function...”, Paramore, abstract, pg 1.

Regarding **claims 8 and 9**, claims 3 recites identical features as in the means-plus-function claims 8 and 9. Thus, references/arguments equivalent to those presented above for

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claims 3 is equally applicable to claims 8 and 9. All means-plus-function elements of claims 8 and 9 are anticipated by the computer (FIG. 3, elements 1, 3) as disclosed by Saga.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached on 7:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



BRIAN WERNER
SUPERVISORY PATENT EXAMINER



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